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there being now a swamp to windward; also, as in Florida, there may be outlying keys, or, as at many places, beach ridges, the keys or beach ridges being higher than the swamp and consequently higher than the old beach or sandy expanse from which the dune grew.

Evidently, such quiescent dunes furnish positive evidence of a rise of sea level. Also, it is clear that this change of sea level must be of Recent or of latest Pleistocene age, the position of the dividing line between Pleistocene and Recent time being necessarily a matter of opinion, for the dunes can not be old. Even those of Florida, which indicate a rise of sea level of at least five or six feet at their bases, rest on late Pleistocene marls and limestone. The exact age of the dunes and the exact length of time that has elapsed since they became quiescent by the growth of swamps cutting off supplies of sand, are alike indeterminate, but the sharpness of characteristic outlines and the size of the trees on many of them indicate quiescence for hundreds, but not for thousands of years.

A locality where this relation between swamp growth and dune quiescence may be conveniently observed by many persons is at Ventnor, N. J., on Absecon Island, south of Atlantic City.

It is believed that the evidence of the dunes mentioned confirms that of shore-lines, beach ridges, and coastal swamps, namely, that the Atlantic coast of the United States has subsided, or the sea level has risen, in Recent time, and that the change of sea level is probably still in progress.

Evidently, also, termination or interruption of growth by a near-by rise of water level is not restricted to dunes along the sea shore, but applies to all dunes.

S. SANFORD

WASHINGTON, D. C.,
December 20, 1915

A REPUTED SPECIFIC FOR BLACKWATER FEVER

I HAVE in my herbarium two curious plants from the interior of Venezuela, which are of special interest because of their chemical properties. They were collected and presented

to me by Dr. Jesus Maria Piñango at Guanoco, Venezuela.

The first specimen is used by the natives of eastern Venezuela as a specific for the dreaded blackwater fever. The plant grows in swamps and reaches a height of six feet. It bears ovate, opposite, entire leaves, tapering to a long point. When boiled to use for fever it colors the water rose-pink.

I should like to invite any reader of SCIENCE who is an expert in therapeutics, and would be interested to analyze and test the properties of this plant to communicate with me, and I will gladly send a specimen for this purpose. For if this plant really possesses the medicinal properties ascribed to it, it might be of much value in the treatment of the blackwater fever, which is so fatal in parts of Venezuela and still more prevalent and deadly in tropical Africa.

The other specimen is a very powerful narcotic. It is called by the Guarauno Indians *Charapu*; and is used by them for poisoning fish in the following manner. A quantity of the leaves are gathered and pounded down into a small hole in the ground so as to form a ball. This is then dried. On going fishing in a river or stream, one man takes this ball of leaves, dips it in the water and rubs it in his hands like a cake of soap. The rest of the party, with scoops and baskets, stand a short distance down stream. Almost immediately the fish become *locoed*, rise to the surface, swim wildly in circles, then become insensible, and are easily secured and gathered into the baskets, so powerful is the narcotic principle of the *Charapu*.

CARLOTTA JOAQUINA MAURY

UNIVERSITY REGISTRATION STATISTICS

TO THE EDITOR OF SCIENCE: In the case of Washington University, the comparison of the University Registration statistics published in SCIENCE, January 21, 1916, with those published for the year preceding, shows a loss in the total number of students in that institution. Actually, Washington University had an increase; 174 in the degree conferring departments alone. This apparent loss is due to a change in the classification of a certain

group of students, as reported to me by the university.

These students, numbering 308, were classified November 1, 1914, under "Other Courses," and were included in the total for the university. Unfortunately, for November 1, 1915, the same group of students, numbering 607, were classified under "Extension and Similar Courses"—a classification not included in the total. This makes the discrepancy in the comparison of totals and accounts for the apparent loss reported.

Professor James Sutton, recorder of faculties of the University of California, reports that of the 3,317 students listed in the statistics in *SCIENCE* of January 21, 1916, under "College," 174 are students in the school of architecture.

JOHN C. BURG

NORTHWESTERN UNIVERSITY

QUOTATIONS

SCIENCE ON THE WAR PATH

No unofficial war document thus far published can compare in importance with the manifesto issued yesterday on the subject of our national neglect of science. The signatories include many of the foremost scientific names of the day. The arguments are crushing in their conclusiveness. Best of all, if it is permissible so to speak, the manifesto is issued at a time when we are face to face with the most lurid of object lessons. The bulk of our failures in the war have been a consequence of our neglect of that scientific energy, strenuousness and organization of which the Germans make so much. We believe their achievements in this field are exaggerated. At the same time, they are far too obvious for us to remain undisturbed by them unless we mean to resign our ancient place in the world.

The signatories of the scientific manifesto point out that our highest ministers of state are mostly ignorant of the obvious facts and principles of "mechanics, chemistry, physics, biology, geography and geology." It will be noted that economics is not included, possibly because it is regarded as a department of biology. The same ignorance, as the scientists

say, runs through the public departments of the civil service, and is nearly universal in the House of Commons. Its existence has been demonstrated by the announcement, on the part of a member of the government, that the possibility of making glycerine from lard was a recent discovery. Doubtless some other minister will shortly allude to the law of gravitation or to spectrum analysis as phenomena which have recently come within the cognizance of the government. The remedy for this state of affairs, in the opinion of the distinguished scientists, "is a great change in the education which is administered to the class from which public officials are drawn." Science should play a larger part in the civil servants' examinations, to the exclusion of Latin and Greek. "Eventually, the Board of Trade would be replaced by a Ministry of Science, Commerce and Industry, in full touch with the scientific knowledge of the moment." In those circumstances, the manifesto goes on to say, with an optimism which is almost pathetic, "public opinion would compel the inclusion of great scientific discoverers and inventors as a matter of course in the Privy Council and their occupation in the service of the state." But if the Privy Council is to be filled up with scientific discoverers, how are party hacks and political schemers to be rewarded for their sycophantic services where they can not afford to pay the price for a knighthood or a peerage?

About the peremptory necessity of better scientific organization on national lines there can be no two opinions. It is not only a question of our prosperity, but of our existence. The law of the survival of the fittest works just as inexorably among nations as it does among individuals. We can be the fittest if we like. Unless we *do* like we shall not survive. But if we are to tackle seriously this problem of scientific reorganization, we shall have to scrap the whole of our rotten and antiquated political machinery. The scientific mind and temper can not possibly flourish in an atmosphere of political trickery, nepotism and plunder such as that which has surrounded us for the last few centuries. For